

Please amend the paragraph 15 to read as follows:

a2  
An object of the present invention is to provide a novel apparatus and method that may direct one or more laser beams across an airport runway surface that may contain objects or other debris. As a result of the novel apparatus, the invention can provide a sufficient period of time for the aircraft, air traffic control, and/or ground based personnel to take corrective action to avoid the hazardous conditions.

Please amend the paragraph 29 to read as follows:

a3  
In accordance with a preferred embodiment of the present invention, at least one of the optical laser transmission and receiving apparatus and the multiple objects or other debris optical laser apparatus includes a motion processor apparatus for distinguishing moving objects or other debris from stationary objects or other debris.

Please amend the paragraph 31 to read as follows:

a4  
Additionally, in accordance with a preferred embodiment of the present invention, the object characterizer apparatus includes apparatus for disregarding objects or other debris whose vectors do not fit within a predetermined profile.

Please amend the paragraph 35 to read as follows:

Further in accordance with a preferred embodiment of the present invention, the system also includes operation sensors and output inspector apparatus for sensing

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impaired operation of the optical laser system or other debris sensing apparatus and for modifying the operation of the system in accordance therewith. In accordance with a preferred embodiment of the present invention, the apparatus for sensing and modifying includes apparatus for operating the optical laser transmitting and receiving apparatus in an occupancy probability sensing mode of operation.

Please amend the paragraph 51 to read as follows:

a6

FIG. 2 illustrates a 3-dimensional frontal view of the airport runway surface with optical laser embodiments present.

Please amend the paragraph 52 to read as follows:

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FIG. 3 is a 3-dimensional side view of the airport runway surface with optical laser embodiments present around the perimeter.

Please amend the paragraph 57 to read as follows:

a8

FIG. 6 is a top view of the airport runway surface with optical laser embodiments present on both sides and on each end showing a laser beam configuration covering the length and width of area specified in three different directions constantly traveling through several different planes.

Please amend the paragraph 58 to read as follows:

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29 FIG. 6A is a simplified top view of the airport runway surface illustrating where an optical laser would provide protection for aircraft in landing and take off sections of the airport runway surface.

Please amend the paragraph 59 to read as follows:

30 FIG. 7 illustrates a top view of the entire airport runway surface with optical laser embodiments present on both sides showing a laser beam configuration covering the width of area specified in both directions constantly traveling through several different planes.

Please amend the paragraph 61 to read as follows:

31 FIG. 8 is a front view of a convex airport runway surface with optical laser embodiments present on both sides showing a laser beam configuration covering the width of the area specified in one direction from left to right constantly traveling through several different planes.

Please amend the paragraph 62 to read as follows:

32 FIG. 9 is a front view of a convex airport runway surface with optical laser embodiments present on both sides showing a laser beam configuration covering the width of the area specified in both directions constantly traveling through several different planes.

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Please amend the paragraph 63 to read as follows:

FIG. 10 is a top view of the entire airport runway surface with optical laser embodiments present on all sides showing the laser beam configuration covering both width and length of the area specified. Laser beams are, in four different constant directions, two of which are sweeping both left and right traveling through several different planes.

Please amend the paragraph 65 to read as follows:

FIG. 12 is a top view of the airport runway surface with optical laser embodiments present at both ends of landing and take off portions of airport runway surface showing a laser beam configuration covering in a constant direction both width and length of the area specified. Laser beams are in four different constant directions, two of which are sweeping both left and right traveling through several different planes.

Please amend the paragraph 66 to read as follows:

FIG. 12A is a simplified top view of the airport runway surface illustrating where optical lasers would provide protection for aircraft in landing and take off sections of the airport runway surface.

Please amend the paragraph 67 to read as follows:

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216  
FIG. 13 is a top view of the airport runway surface with optical laser embodiments present along parameter showing a laser beam configuration covering length and width of the area specified in four different constant directions, two of which are sweeping both left and right traveling through several different planes.

Please amend the paragraph 68 to read as follows:

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FIG. 13A is a simplified top view of the airport runway surface illustrating where an optical laser would provide protection for aircraft in landing and take off sections of the airport runway surface.

Please amend the paragraph 69 to read as follows:

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FIG. 14 is a top view of the airport runway surface with optical laser embodiments present on one side showing a laser beam configuration covering the width of area specified in two constant directions traveling through several different planes.

Please amend the paragraph 71 to read as follows:

219  
FIG. 15 is a top view of the airport runway surface with optical laser embodiments present on both sides showing a laser beam configuration covering the width of the area specified in three constant directions traveling through several different planes.

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Please amend the paragraph 79 to read as follows:

FIG. 19 is a top view of the airport runway surface with optical laser embodiments present at both ends of the airport runway surface showing laser beam configuration covering the length and width of a specified area from three different directions constantly traveling through several different planes.

Please amend the paragraph 80 to read as follows:

FIG. 19A is a simplified top view of the airport runway surface illustrating where an optical laser would provide protection for aircraft in landing and take off sections of the airport runway surface.

Please amend the paragraph 84 to read as follows:

FIG. 22 is a front view of a convex airport runway surface with optical laser embodiments present on both sides showing laser beam configuration covering the width of the area specified in one direction constantly traveling through several different planes from left to right.

Please amend the paragraph 87 to read as follows:

FIG. 25 is a front view of a convex airport runway surface, specifically showing a sectional view of the support for holding the optical laser embodiment located at the

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width of the airport runway surface. Illustrating that the inner core would maintain a constant temperature during inclement weather to prevent the freezing of all embodiments.

Please amend the paragraph 88 to read as follows:

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FIG. 26 is a front view of a convex airport runway surface, specifically showing the movement of raising and lowering the entire support for holding the optical laser embodiment located at the width of the airport runway surface.

Please amend the paragraph 92 to read as follows:

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FIG. 29 is a top view of the airport runway surface with optical laser embodiments present on both sides of the width showing a laser beam configuration covering width of area specified in two directions constantly traveling through several different planes.

Please amend the paragraph 94 to read as follows:

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FIG. 30 is a top view of the airport runway surface with optical laser embodiments present on both sides of the width showing a laser beam configuration covering length and width of area specified in one direction constantly traveling through several different planes.

Please amend the paragraph 96 to read as follows:

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FIG. 31 is a top view of the airport runway surface with optical laser embodiments present on both sides of the width showing a laser beam configuration covering length and width of area specified in two directions constantly traveling through several different planes.

Please amend the paragraph 114 to read as follows:

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An alternative preferred embodiment of the present invention is a method for detecting objects on an airport runway comprising detecting the presence of an object on the airport runway 3 by the object's interruption of one or more optical laser beams 4 generated by an optical system 10, processing the output from the optical system 10 to determine the location of the object on the runway 3, and transmitting the information regarding the object to appropriate personnel. The method may further comprise the step of processing the output from the optical system 10 to determine the type of object on the runway 3. The method may further comprise transmitting the information to a user inter-face to alert appropriate personnel. An alternative preferred embodiment of the above method comprises the steps of detecting the presence of an object on an airport runway by the object's interruption of one or more optical laser beams generated by an optical system, processing the output from the optical system to determine the location of the object on the runway, processing the output from the optical system to determine the type of object on the runway, processing the output from the optical

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system to determine the appropriate degree of danger posed by the presence of the object on the runway, and transmitting the information regarding the object to a user interface.

Please amend the paragraph 116 to read as follows:

Reference is now made to FIG. 2 illustrating a 3-dimensional frontal view of the airport runway surface 3, with the center line 5 marking the width in an equal distance to both edges of the airport runway surface 3. The optical laser transmitter 1 which supplies the optical laser 4 to the optical laser receiver 2 is preferably located at the edge of the airport runway surface 3.

Please amend the paragraph 118 to read as follows:

FIG. 3 illustrates the side view of a 3-dimensional airport runway surface 3 with the center line 5 marking the width in an equal distance to both edges, both optical laser transmitter 1 and optical laser receiver 2 are located around the parameter.

Please amend the paragraph 125 to read as follows:

FIG. 8 is a front view of a convex airport runway surface 3 with optical laser transmitters 1 located on one side of the supporting mechanism 6, opposite of the optical laser receivers 2 located on the other side of the runway surface 3, also located on the supporting mechanism 6. The direction of the optical lasers 4 show the

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